

REMARKS/ARGUMENTS

Claim 1 requires the *concomitant* phosphatizing and foaming of the sludge, induced by the addition of phosphoric acid. This means that phosphatizing and foaming occur concurrently, i.e., together at the same time.<sup>1</sup> Thus, *In re Burhans* is inapt, as the present invention does not reorder steps but rather accomplishes both phosphatizing and foaming in a single step. The prior art does not suggest this.

The Examiner paints with too broad a brush in finding Mainwaring and Forrester combinable. Mainwaring relates to the removal of, e.g., lead from a waste stream by forming a foam, drying the foam, and removing it along with trapped contaminants. Forrester relates to a method for retaining lead in lead-bearing waste, trapping it in the waste by treatment with a water soluble phosphate and a complexing agent. Thus, Mainwaring is trying to remove lead from waste while Forrester is trying to trap it in the waste. Why would one of ordinary skill in the art use Forrester's phosphate treatment in Mainwaring's process? To what end?

The Examiner is correct that Mainwaring lacks phosphatizing. Also, in Mainwaring foam is created by the passage of gas through the liquor. See, e.g., column 3, lines 58-61, column 5, lines 52-54 and column 6, lines 29-30. In the present invention, on the other hand, *concomitant* phosphatizing and foaming of sludge is induced by the addition of phosphoric acid. Forrester's use of phosphoric acid in the Mainwaring process would be expected to stabilize any lead present in the Mainwaring sludge, based on the teaching in Forrester.

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<sup>1</sup> The word "concomitant" means: occurring or existing concurrently; attendant (<http://www.answers.com/topic/concomitant>); happening at same time: happening or existing along with or at the same time as something else ([http://encarta.msn.com/dictionary\\_1861599364/concomitant.html](http://encarta.msn.com/dictionary_1861599364/concomitant.html)).

making the lead *less* apt to end up in the foam of Mainwaring.<sup>2</sup> As Mainwaring is trying to remove, e.g., lead, the references are at cross purposes.

The present invention provides a method that is able to quickly transform sludge into a material that has sufficient mechanical strength to be easily handled by building site tools, such as bulldozers, diggers, etc. See specification page 2, lines 1-5. By concomitantly phosphatizing and foaming the sludge, there are not two separate steps but only one. Even if Mainwaring and Forrester were properly combinable a two step process would result: a phosphatization and a foaming. The present invention process, on the other hand, produces very quickly and simply a dried foam which has very good mechanical strength (see, e.g., Figure 1 of the specification). While not bound or limited by theory, the inventors believe that this is probably due to the *in situ* formation of insoluble solid phosphates inside the foamed sludge, which physically stabilizes the foam (this is a separate effect from the chemical stabilization/inertization of heavy metals) for a sufficient time to be dried. In this respect, the foam density obtained (preferred foam densities are described in Claims 2 and 3)<sup>3</sup> allows for quick drying as phosphatizing induced foaming produces a light and stable foam which can quickly acquire mechanical strength.

Accordingly, and in view of the differences between what is claimed herein and what is taught in Mainwaring and Forrester, Applicants respectfully request the reconsideration and withdrawal of the rejection over these references. Again, and in the interest of brevity,

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<sup>2</sup> With regard to the solubility of contaminants, Col. 4, line 57 of Mainwaring relates to the solubility of organic chemicals only. Regardless, the teaching in Forrester that a water soluble phosphate is useful to trap lead in waste would not lead one of skill in the art to use this treatment in trying to remove lead from waste.

<sup>3</sup> These foam densities, like the other limitations of the dependent claims, are not disclosed or suggested by the art. Where the Examiner has used Official Notice to justify rejections, such as in the allegation that "[o]ne of ordinary skill in the art would have known that drying in composting tunnels would have been just as effective as other drying methods" used to reject Claim 7, and several other instances, the Examiner is here seasonably challenged to present evidence sufficient to justify the rejection, as per the M.P.E.P.

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these remarks apply with equal force to Claims 8-10, which have been rejected over these references further in view of Derie, as Derie fails to make up for that lacking in both Mainwaring and Forrester.

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